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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,736	05/18/2006	Motohiro Itadani	4918-0107PUS1	3542
2292 7590 01/27/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER MOONEY, MICHAEL P				
ART UNIT 2883		PAPER NUMBER		
NOTIFICATION DATE 01/27/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/579,736

**Applicant(s)**

ITADANI ET AL.

**Examiner**

MICHAEL P. MOONEY

**Art Unit**

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 9, 13 and 16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3, 13 and 16 is/are rejected.  
7) ☒ Claim(s) 9 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 5/19/08  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The cancellation of claims 4-8, 10-12, 14-15 is acknowledged.

#### ***Election/Restrictions***

Applicant's election with traverse of configuration (1) in claim 1 in the reply filed on 10/8/08 is acknowledged. The traversal is on the ground(s) that there is no evidence to support that an asserted special technical feature does not make a contribution over the prior art and that parts of claim 1 other than configurations (1) and (2) are special technical features. This is not found persuasive because as shown below in a complete rejection of elected claim 1 configuration (1), at least configuration (1) makes no contribution over the prior art and thus is not a special technical feature.

Furthermore, configuration (1) is a mutually exclusive/patentably distinct embodiment with respect to configuration (2). If the technical feature of configuration (1) or the technical feature of configuration (2) amounts to a contribution over the prior art, the contribution(s) of the said configurations would be certainly patentably distinct at least due to the clearly distinct embodiments presented in each respective configuration.

Additionally, parallel relative position(s) referred to in the respective configuration (1) is clearly different/patentably distinct from perpendicular relative position(s) referred to in the respective configuration (2).

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kadoya (20050185124).**

Kadoya teaches teaches a liquid crystal display device of an in-plane switching mode (e.g., figs. 2A-2B, 6A-6B) which comprises a pair of polarizers 30 20 (e.g., fig. 6B) which are a polarizer at an output side and a polarizer at an incident side and disposed at relative positions such that absorption axes of the polarizers 30 20 are approximately perpendicular to each other (e.g., fig. 6B) and at least optically anisotropic member (A) 40, optically anisotropic member (B) 50 and a liquid crystal cell 10 which are disposed between the pair of polarizers 20 30, wherein  $n_{\text{sub.zA}} > n_{\text{sub.yA}}$  and  $n_{\text{sub.zB}} > n_{\text{sub.yB}}$  when, with respect to optically anisotropic member (A) 40 and optically anisotropic member (B) 50, refractive indices in a direction of an in-plane slow axis are represented by  $n_{\text{sub.xA}}$  and  $n_{\text{sub.xB}}$ , respectively (e.g., fig. 6B,

paragraph 0073), refractive indices in a direction in-plane and perpendicular to the direction of an in-plane slow axis are represented by  $n_{\text{sub.yA}}$  and  $n_{\text{sub.yB}}$ , respectively (e.g., fig. 6B, paragraph 0073), and refractive indices in a direction of a thickness are represented by  $n_{\text{sub.zA}}$  and  $n_{\text{sub.zB}}$ , respectively (e.g., fig. 6B, paragraph 0073).

Although Kadoya does not explicitly state "each measured using light having a wavelength of 550 nm" it would have been obvious to do so because it is conventionally known to measure the said refractive indices using light having a wavelength of 550 nm for the purpose of measuring values that are useful and/or in the middle of the visible spectrum.

Furthermore, Kadoya teaches (1) the absorption axis of the polarizer 30 at the output side and the in-plane slow axis of a liquid crystal of the liquid crystal cell 10 under application of no voltage (e.g., fig. 6B) are disposed at relative positions parallel to each other (e.g., fig. 6B), and optically anisotropic member (A) 40 and optically anisotropic member (B) 50 are disposed separately between the liquid crystal cell 10 and the polarizer 20 at the incident side and between the liquid crystal cell 10 and the polarizer 30 at the output side (e.g., fig. 6B), the in-plane slow axis of optically anisotropic member (A) 40 and the in-plane slow axis of optically anisotropic member (B) 50 are disposed at relative positions approximately perpendicular to each other (e.g., fig. 6B) and the in-plane slow axis of optically anisotropic member (A) 40 and the absorption axis of a polarizer 20 disposed closer to optically anisotropic member (A) 40 are disposed at relative positions approximately parallel to each other.

Thus claim 1 is rejected.

**Claims 2-3, 13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadoya (20050185124) and further in view of Ito (7019130).**

Kadoya teaches teaches a liquid crystal display device of an in-plane switching mode (e.g., figs. 2A-2B, 6A-6B) which comprises a pair of polarizers 30 20 (e.g., fig. 6B) which are a polarizer at an output side and a polarizer at an incident side and disposed at relative positions such that absorption axes of the polarizers 30 20 are approximately perpendicular to each other (e.g., fig. 6B) and at least optically anisotropic member (A) 40, optically anisotropic member (B) 50 and a liquid crystal cell 10 which are disposed between the pair of polarizers 20 30, wherein  $n_{\text{sub.zA}} > n_{\text{sub.yA}}$  and  $n_{\text{sub.zB}} > n_{\text{sub.yB}}$  when, with respect to optically anisotropic member (A) 40 and optically anisotropic member (B) 50, refractive indices in a direction of an in-plane slow axis are represented by  $n_{\text{sub.xA}}$  and  $n_{\text{sub.xB}}$ , respectively (e.g., fig. 6B, paragraph 0073), refractive indices in a direction in-plane and perpendicular to the direction of an in-plane slow axis are represented by  $n_{\text{sub.yA}}$  and  $n_{\text{sub.yB}}$ , respectively (e.g., fig. 6B, paragraph 0073), and refractive indices in a direction of a thickness are represented by  $n_{\text{sub.zA}}$  and  $n_{\text{sub.zB}}$ , respectively (e.g., fig. 6B, paragraph 0073).

Although Kadoya does not explicitly state "each measured using light having a wavelength of 550 nm" it would have been obvious to do so because it is conventionally known to measure the said refractive indices using light having a wavelength of 550 nm for the purpose of measuring values that are useful and/or in the middle of the visible spectrum.

Furthermore, Kadoya teaches (1) the absorption axis of the polarizer 30 at the output side and the in-plane slow axis of a liquid crystal of the liquid crystal cell 10 under application of no voltage (e.g., fig. 6B) are disposed at relative positions parallel to each other (e.g., fig. 6B), and

optically anisotropic member (A) 40 and optically anisotropic member (B) 50 are disposed separately between the liquid crystal cell 10 and the polarizer 20 at the incident side and between the liquid crystal cell 10 and the polarizer 30 at the output side (e.g., fig. 6B), the in-plane slow axis of optically anisotropic member (A) 40 and the in-plane slow axis of optically anisotropic member (B) 50 are disposed at relative positions approximately perpendicular to each other (e.g., fig. 6B) and the in-plane slow axis of optically anisotropic member (A) 40 and the absorption axis of a polarizer 20 disposed closer to optically anisotropic member (A) 40 are disposed at relative positions approximately parallel to each other. Thus claim 1 is rejected.

Although Kadoya does not explicitly state “wherein an absolute value of a difference between  $n_{\text{sub.xA}}$  and  $n_{\text{sub.zA}}$  is 0.003 or smaller, and an absolute value of a difference between  $n_{\text{sub.xB}}$  and  $n_{\text{sub.zB}}$  is 0.003 or smaller” it would have been obvious to do so because it is conventionally known in the art to use birefringent cellulose acetate film, for example as taught by Ito (e.g., col. 5 lines 5-11), as the optical anisotropic member(s).

Kadoya and Ito are combined by taking the technology of Kadoya which teaches birefringent particularly oriented optically anisotropic member film between the LC cell and each respective polarizer and applying it to the birefringent cellulose acetate film technology of Ito to obtain the instant invention of a particularly oriented optically anisotropic member birefringent cellulose acetate film between the LC cell and each respective polarizer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make such a combination for the purpose of providing an LC device that uses birefringent cellulose acetate film as the optically anisotropic member for the purpose of providing an LC device that has commonly available/utilized material.

Furthermore, Ito col. 5 lines 5-11 clearly renders as obvious the ranges stated in “wherein an absolute value of a difference between n.sub.xA and n.sub.zA is 0.003 or smaller, and an absolute value of a difference between n.sub.xB and n.sub.zB is 0.003 or smaller” via the principle of obviousness of ranges, that is discussed in the MPEP as follows:

#### **2144.05 Obviousness of Ranges**

##### **I. OVERLAP OF RANGES**

In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Geisler, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997) (Claim reciting thickness of a protective layer as falling within a range of “50 to 100 Angstroms” considered prima facie obvious in view of prior art reference teaching that “for suitable protection, the thickness of the protective layer should be not less than about 10 nm [i.e., 100 Angstroms].” The court stated that “by stating that suitable protection’ is provided if the protective layer is about’ 100 Angstroms thick, [the prior art reference] directly teaches the use of a thickness within applicant’s] claimed range.”). Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

Clearly the ranges 0.003 or smaller for the difference between n.sub.xA and n.sub.zA and the difference between n.sub.xB and n.sub.zB is rendered as obvious via the principle of obviousness of ranges and Ito (e.g., col. 5 lines 5-11; see also the above combination of Ito and Kadoya). Thus, claim 2 is rejected.

Furthermore, Ito col. 5 lines 5-11 clearly renders as obvious the ranges stated in “wherein an absolute value of a difference between n.sub.xA and n.sub.zA is 0.003 or smaller, and



n.sub.xB>n.sub.zB” via the principle of obviousness of ranges, that is discussed in the MPEP as follows:

#### **2144.05 Obviousness of Ranges**

##### **I. OVERLAP OF RANGES**

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Clearly the ranges 0.003 or smaller for absolute value of a difference between n.sub.xA and n.sub.zA is rendered as obvious via the principle of obviousness of ranges and Ito (e.g., col. 5 lines 5-11; see also the above combination of Ito and Kadoya). Thus claim 3 is rejected.

Although Kadoy may not explicitly state “wherein optically anisotropic member (A) and optically anisotropic member (B) comprise a layer selected from following layers (i) to (iii): (i) A layer comprising a material having a negative value of intrinsic birefringence, (ii) A layer comprising discotic liquid crystal molecules or lyotropic liquid crystal molecules, (iii) A layer comprising a photo-isomerizable substance” it would have been obvious to do so at least because “A layer comprising discotic liquid crystal molecules or lyotropic liquid crystal molecules” and/or the other mentioned elements is/are conventionally known in the art and/or is/are rendered

as obvious via Kadoy paragraph 0064 and/or Ito column 27. Thus claim 13 is rejected.

Regarding claim 16, each and every structural element necessitated by claim 16 is rendered as obvious by the reasons/references given above (see particularly the above rejection of claim 13). Thus claim 16 is rejected.

***Allowable Subject Matter***

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art, either alone or in combination, does not disclose or render obvious wherein the in-plane slow axis of optically anisotropic member (B) and the in-plane slow axis of the liquid crystal cell under application of no voltage are disposed at relative positions approximately perpendicular to each other, and optically anisotropic member (A) is disposed between the liquid crystal cell and the polarizer at the output side in combination with the rest of claim 9.

It is noted that the claim 9 is allowable because the unique combination of each and every specific element stated in the claim.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL P. MOONEY whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael P. Mooney/  
Patent Examiner, Art Unit 2883

/Frank G. Font/  
Supervisory Patent Examiner, Art Unit 2883

FGF/mpm  
1/20/09

